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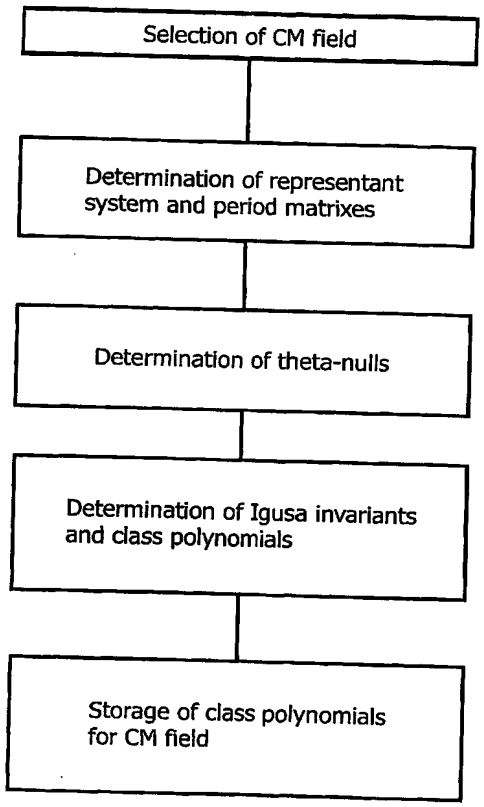
(54) Title: METHOD OF CONSTRUCTING HYPERELLIPTIC CURVES SUITABLE FOR CRYPTOGRAPHIC PURPOSES AND CRYPTOGRAPHIC APPARATUS USING SUCH A METHOD



(57) Abstract: To provide a method for determining secure hyperelliptic curves quickly, it is proposed that suitable hyperelliptic curves be constructed using the complex multiplication method. The inventive method generates hyperelliptic curves, suitable for cryptographic applications, of genus 2 over finite fields having large characteristics. The invention further provides a cryptographic apparatus making use of a method as described beforehand can advantageously be used for encrypting and decrypting of messages for the secure exchange of information over public networks between senders and receivers. With such a cryptographic apparatus, messages and documents due for exchange can be encrypted fast and easily in an authentication procedure for the senders and receivers.

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